IN THE U.S. PATENT AND TRADEMARK OFFICE

APPLICANT: Ryuji HAMADA et al.

APPLICATION NO.: 10/589,360

FILING DATE: August 14, 2006

FOR: Corrosion Resistant Rare Earth Magnets and Process for Production Thereof

ART UNIT: 4162

EXAMINER: COLIN W. SLIFKA

D E C L A R A T I O N

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir,

I, Ryuji Hamada, resident of c/o Magnetic Materials Research Center, Shin-Etsu Chemical Co., Ltd., 1-5, Kitago 2-chome, Echizen-shi, Fukui-ken, Japan do hereby declare that:

1. I was graduated from Department of Earth and Space Science, Graduate School of Science, Osaka

University, Japan in March, 1995. Since April 1997, I have been employed by Shin-Etsu Chemical Co., Ltd., the assignee of the above-identified application. I have been engaged in research and development relating to rare earth magnets in the laboratory of the Company.

2. I am one of the named inventors of the above-identified application and hence, am familiar with the subject matter disclosed in said application.

3. In order to show the feature of the present invention, I conducted the following experiments.

[Experiments]

Corrosion resistance was evaluated for the single use of a flaky fine metal powder (Al flakes and Zn flakes in Example 1 of the present invention), the single use of a silane (vinyltrimethoxysilane of Example 30 of the present specification or γ-glycidoxypropyltrimethoxysilane of Example 33 of the present specification) by salt spray test described on the present specification.

In case of the single use of a flaky fine metal powder, the flaky fine metal powder could not form a film. The flaky fine metal powder was only put on the surface of the magnet and a few flaky fine metal powders remained on the surface of the magnet after the test was concluded.

The results are shown in the following table.

	Salt spray test (hr.)
Al flakes + Zn flakes	0.5
vinyltrimethoxysilane	1.0
γ-glycidoxypropyltrimethoxysilane	1.0

As is evident from the above results, the single use of the flaky fine metal powder or the silane would result in an extremely low corrosion resistance. However, by using a flaky fine metal powder and a silane and/or a partial hydrolyzate thereof in combination, an extremely excellent corrosion resistance (i.e., salt spray test: 500 to 1,000 hours) can be attained.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated this 29th day of October , 2008

Ryuji Kamada